

Williamson's Sapsucker Inventory 2005

by

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INTRODUCTION

This project was designed to collect inventory on Williamson's Sapsucker nest locations within selected areas in southern British Columbia, particularly in Regions 3 (Southern Interior) and 8 (Okanagan-Boundary) of the B.C. Ministry of Environment. The specific objectives of this project were to conduct inventory for active Williamson's Sapsucker nests in areas that had not been previously censused during the inventories of 1996 to 2004 (Gyug 1996, 1997, 1998, 1999, 2003 and unpublished data) or where Williamson's Sapsuckers had been detected on those surveys but where nests had yet to be located. This data was to support the establishment of Wildlife Habitat Areas (WHAs) under the Identified Wildlife Management Strategy (IWMS) under the authority of the Forest and Range Practices Act of B.C. Williamson's Sapsucker had not been included to date in the IWMS (B.C. MWLAP 2004) because it had yet to be assessed by COSEWIC. It was assessed in May 2005 and given the status of Endangered, primarily because of low population numbers in B.C. (estimated at 230 breeding pairs, Gyug 2005) and the tendency to use old Western Larch stands as nesting habitat which are being lost to timber harvesting and land clearing at an alarming rate.

No attempt was made to summarize existing information on Williamson's Sapsucker in this report, which can be found summarized in the interim reports of this project cited above, or in Gyug (2005). This report is an interim summary report of the results from the 2005 surveys, and is not meant to summarize the state of knowledge of the species in Canada. A more complete analysis could be made from the raw data files.

Acknowledgements

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METHODS

Sites were selected for inventory based on:

- Lack of previous inventory for Williamson's Sapsuckers from 1996-2004 but where they were suspected to be present based on habitat (presence of mature or old-growth Western Larch) or old records,
- Known presence of Williamson's Sapsuckers from previous years of inventory but where nests had not been previously located.

592 call playback surveys were conducted from May 22 to June 19, 2005, generally using 400 m between successive call playback points except in obviously unsuitable habitat. Volunteer call playback surveys conducted by the author in the Botanie Creek area north of Lytton (April 24; 22 points) and the East Kootenays (May 2-4, 100 points). The volunteer surveys did not

result in any new locations for Williamson's Sapsucker.

Williamson's Sapsucker will respond to call playbacks anytime in the breeding season from the earliest date of arrival on the breeding range (from late March to early April depending on the year) to shortly after the young have fledged. The calls played back consisted of 10 seconds of audio played 3 times in different directions separated by about 120 degrees, with 20 seconds of silence between each 10 seconds of playback. The calls played back consisted of 2 drums followed by several "Cheeur" calls (that sound like a cross between the squawk of a Black-billed Magpie and the scream of a Red-tailed Hawk) and several scold/alarm calls that are only given near the nest or sap trees and that sound like a "hoarse, guttural roll" with the best transliteration being "churr"—although this is not the Churr call referred to in the Birds of North America account, which I have called the "Cheeur" call above. I have not tested which of these calls is most effective at eliciting a response, but Hadow (1977) tested the Cheeur call and the drum and found the Cheeur much more effective at eliciting prolonged responses than the drum. Generally I waited only 10-15 seconds at a stop before giving a call playback, and usually did not wait more than 1 minute after the call playback for a response except in areas . Responses, if one were forthcoming, were usually very quick, often within the first 10 seconds of call playback, although this was not true on every occasion and sometimes first responses took 2-3 minutes.

All cavity nesting birds and raptors heard or seen at call playback points were recorded. Date, time and location (UTM, NAD 83) were recorded on consumer-grade GPS units to an accuracy of at least 10 m. Call playback points were generally done on roadsides, except where no roads existed, or where roads were overgrown and impassable by vehicle. Wherever Williamson's Sapsuckers were recorded on the call playbacks, we returned for nest searches between June 10 and 26. Nests that were previously known from 1996 to 2004 were visited to check on current status only where they were quickly and easily accessible while going to and from other sites.

Call playbacks were also used to assist locating Williamson's Sapsuckers in 6 nest census areas. Three of these areas were in Tree Farm Licence (TFL) 8 north of Midway, one was in the Arrow-Boundary Forest District (FD) between Johnstone Creek and Rock Creek south of Storm Mt., one was in TFL 15 north of Vaseux Creek near Browning Road, and one was in the Okanagan-Shuswap FD at McLean Creek east of Okanagan Falls. The intent was to find every Williamson's Sapsucker nest, or at least breeding territory, within each census area. Every point within the census area was approached to within at least 250 m by a call playback point.

Nests were found by following adults to the nest sites, or by listening for the begging calls of young woodpeckers in the nest. All young heard from a nest were investigated to determine the species of nesting woodpecker or sapsucker. The locations of any other woodpecker or raptor nests found were recorded. The locations (UTM, NAD 83, 10-m accuracy) of Williamson's Sapsucker nests were determined using a handheld consumer-grade GPS unit. Other data collected at each Williamson's Sapsucker nest included: tree species, DBH, tree height, nest height, nest hole aspect, Wildlife Tree Decay Class, type of decay, elevation, slope, aspect, topographic situation, soil moisture regime, general characteristics of nesting stand, and enough understorey information to later determine Site Series once the BEC variant had been determined. Sometimes other notes on the Williamson's Sapsucker activity were noted, such as whether the young in the nest could be heard or seen, and which stands the adults were flying to

and from in their foraging bouts.

Data Management

Data files are in ARC shapefile sets. If you have one of the earlier versions of these files, you should update it with one of these from July 2005 which correct a few errors in location and other information in the original files .

- **WISA_callplaybacks_1996_2005** Call playback station locations and results from call playbacks including 1997, 1998, 2003, 2004 and 2005.
- **WISA_1996_2005** All Williamson's Sapsucker observations (452) during the 1996-2005 surveys, and including 156 nests in 199 trees and including data from other sources where location can be fairly accurately ascertained. This file includes the actual or estimated locations of birds located during the call playbacks.
- **WISA_Census_Areas** The polygons of the census areas from all years including the summary results for each census. Actual bird locations are in the WISA_1996_2005 file.

INVENTORY RESULTS

In 2005, Williamson's Sapsuckers were detected at 47 of the 592 call playback stations conducted under this contract. (Figures 1-3). The 47 detections resulted in 42 territories that were searched for nests. 24 new nests were found in territories that were newly located or in which nests had not been previously located. 3 new nests were found in old territories where other nest sites were previously known. 14 old nest trees were found to be re-used for nesting in 2005. 25 territories were located for which we could not find nests. Nest censuses in 2005 were conducted in 6 areas (Table 1, Figure 4). The mean nest detection distance from initial call playback point using all data from 1997-2005 was 244 m and the median 230 m.

Territories in which no nests could be found sometimes appeared to be the territories of unmated males, and there may have been no nest, but other times there were pairs present, but it appeared we had visited too early. Nests are only easy to locate in the final week that the young are in the nest (of the 4 weeks between hatching and fledging) which is when the young are very vocal, can be heard from up to 100 m, and the parents are flying almost continuously to and from the nest. Nest searches that are conducted earlier or later than the final week of nesting are much less successful, and the time was not available to make multiple visits to most sites.

The new information from 2005 did not change the patterns of nest trees used, BEC zones used, elevation ranges used or habitats used that were outlined in the COSEWIC status report for the Okanagan-Boundary population (Gyug 2005). Nest trees were still predominantly large, veteran Western Larch (Table 2, Figure 5). The nesting habitat model previously developed in 2000 based on only 33 nests has not changed significantly even with addition of 91 nests to the database: 90% of the nests were found between 1000 and 1400 m elevation; 70% of the nests were in the IDFdm1, 17% in the MSdm1, 12% in the IDFxh1 and 1% in the IDFxh4.

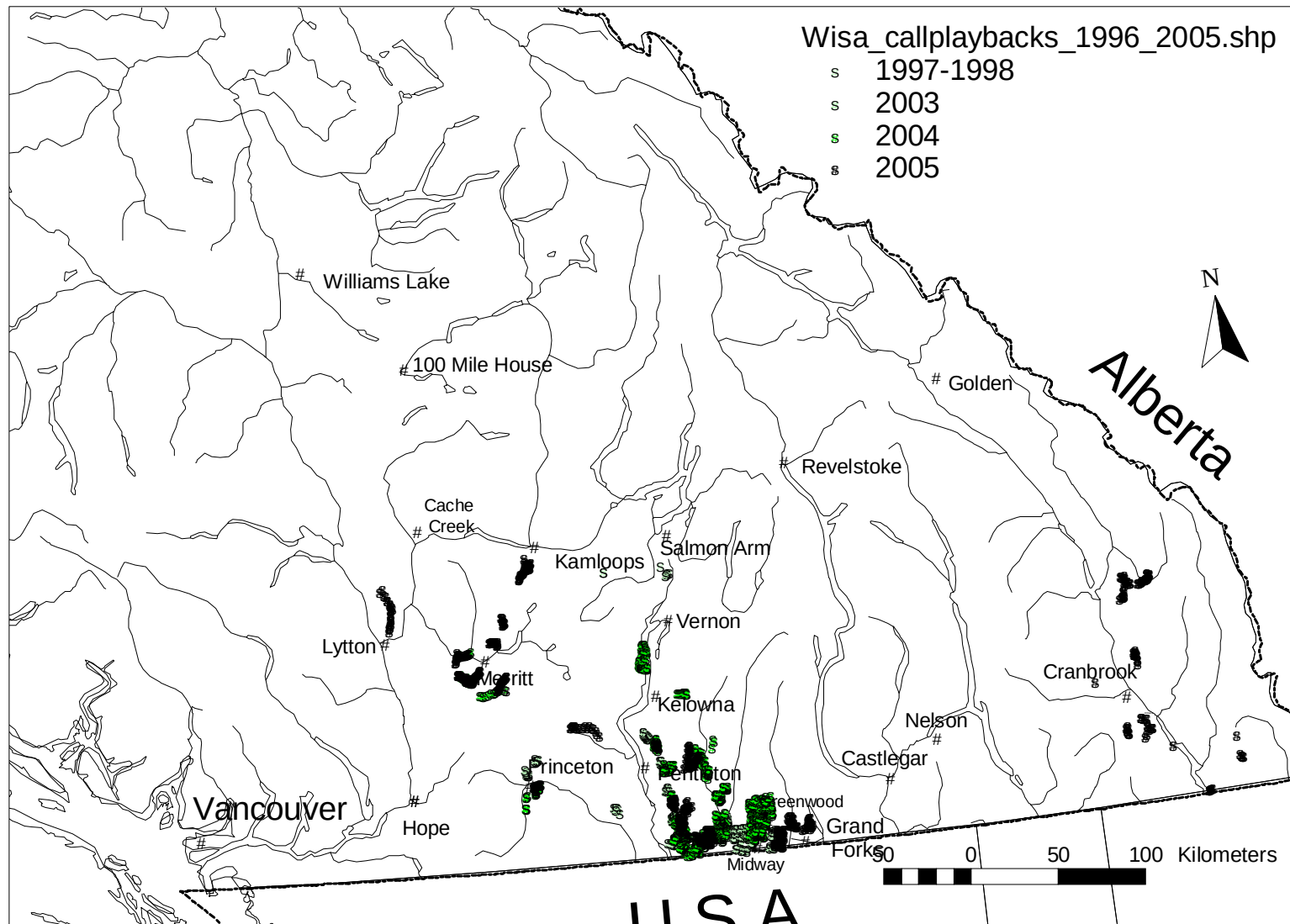


Figure 1. Location of call playback points for Williamson's Sapsucker in southern B.C., 1997-2005.

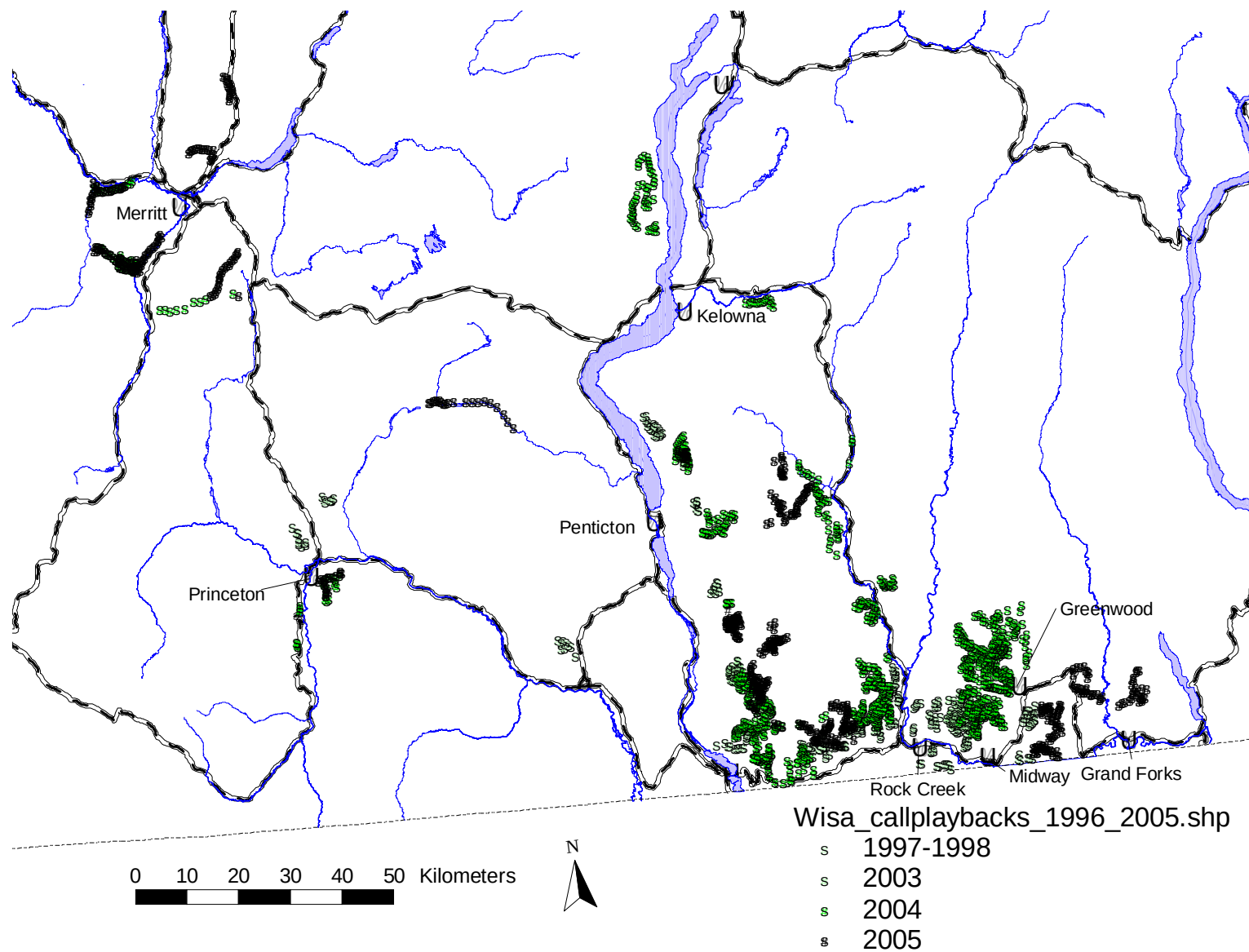


Figure 2. Location of call playback points in the central southern interior of British Columbia, 1997-2005.

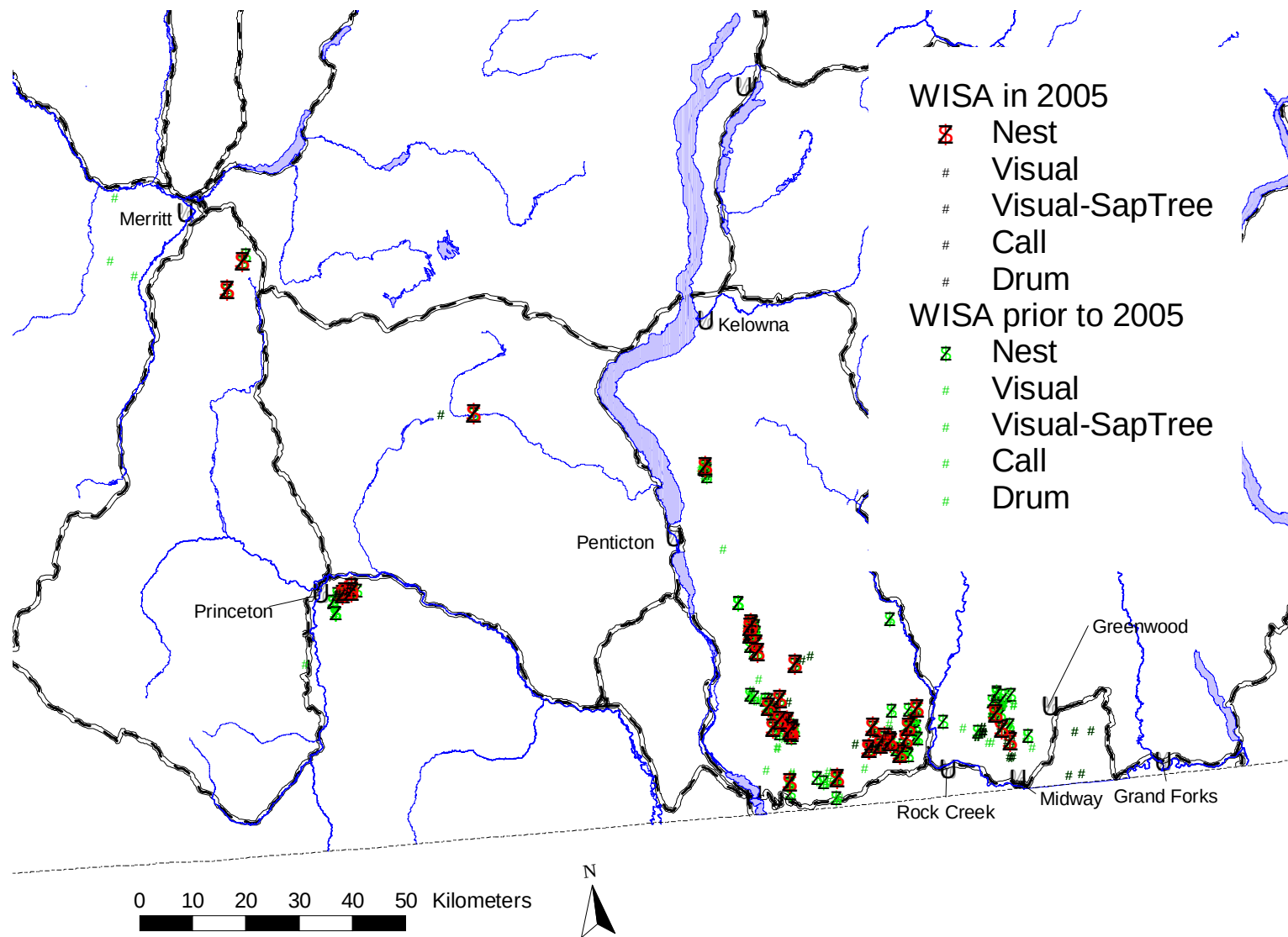


Figure 3. Location of Williamson's Sapsucker observations during inventories from 1996-2005 in the southern interior of British Columbia.

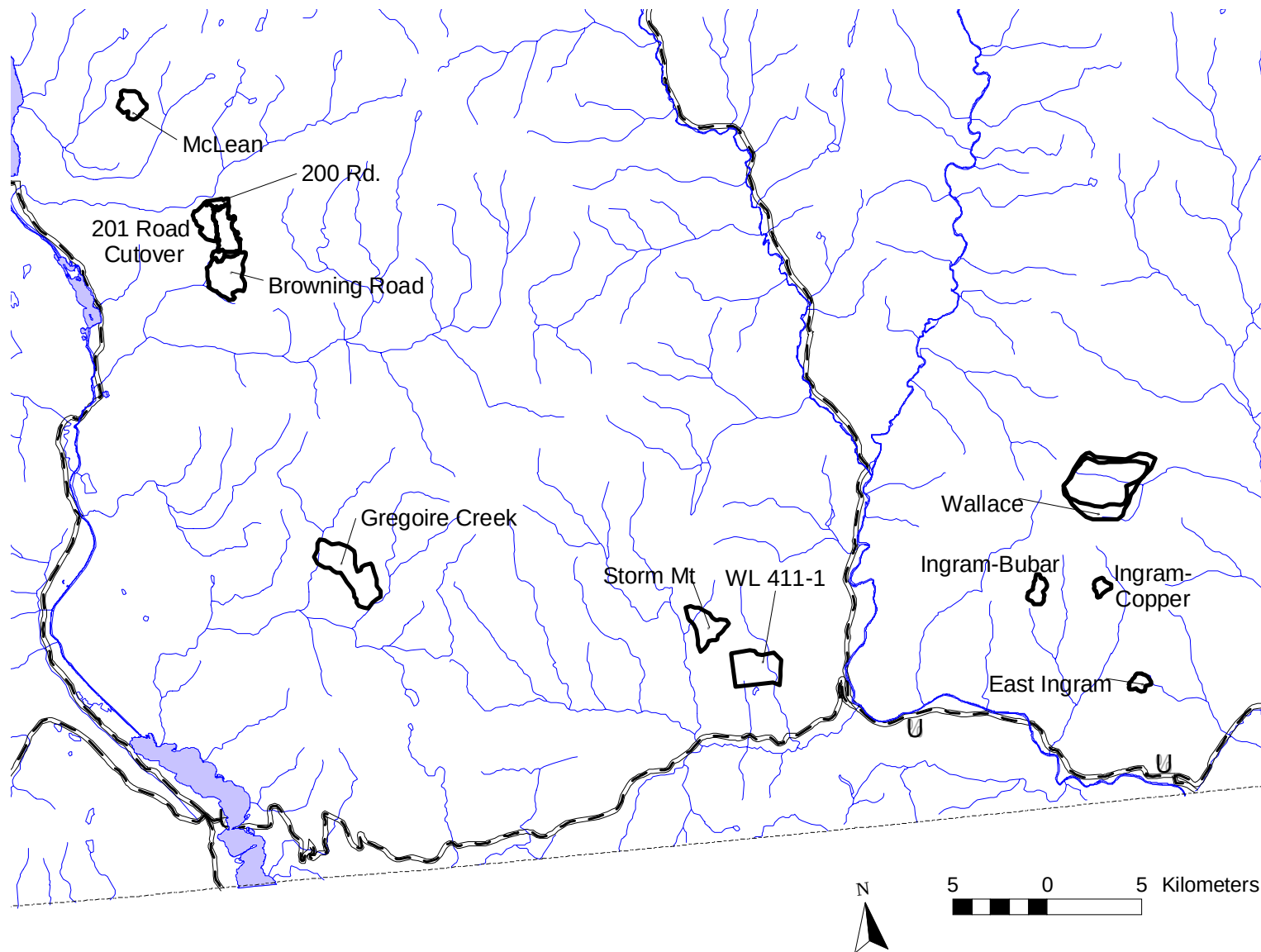


Figure 4. Location of Williamson's Sapsucker census areas in the Okanagan-Boundary population (see Table 1 for 2005 results and Gyug (2005) for previous census results).

Table 1. Nest and pair (including pairs for which nests could not be found) densities in southern British Columbia, 2005.

Census Area Name	Nests	Other Pairs	Area (km ²)	<u>Density (/km²)</u>		Habitat
				Nest	Pair	
East Ingram	0	1	0.74	0.00	1.35	Old Growth (>200 yr) Western Larch-Douglas-fir stand
Ingram-Copper	1	0	0.57	1.75	1.75	"
Ingram-Bubar	0	3	1.02	0.00	2.94	"
Browning Rd	1	0	3.57	0.28	0.28	Seedtree cut 1976-77 adjacent to Okanagan Falls Old-Growth stand censused in 2003 and 2004
Storm Mt	3	0	2.35	1.28	1.28	Old-growth veteran stands within 60-70 year-old Lodgepole Pine
McLean Creek	0	0	1.54	0.00	0.00	Old growth Douglas-fir with some Western Larch within younger stands

Table 2. Nest tree species for Williamson's Sapsuckers in the Okanagan-Boundary population, 1996-2005.

Tree Species	N	%	Mean dbh (cm)	Notes
Live Lw	87	70.2	78	See Figure 2; 80%>69 cm dbh, 92%>49 cm dbh.
Dead Lw	11	8.9	63	34-86 cm dbh
At	9	7.3	44	6 live (38-54cm dbh), 3 dead (26, 47, 47 cm dbh)
Ep	7	5.6	30	Range 24-33 cm dbh
Sx	3	2.4	50	2 dead, 1 live
Py	3	2.4	69	2 dead, 1 live
Act	2	1.6	96	Only one tree, and is now fallen
Fd	2	1.6	55	1 dead, 1 live
Total	124			

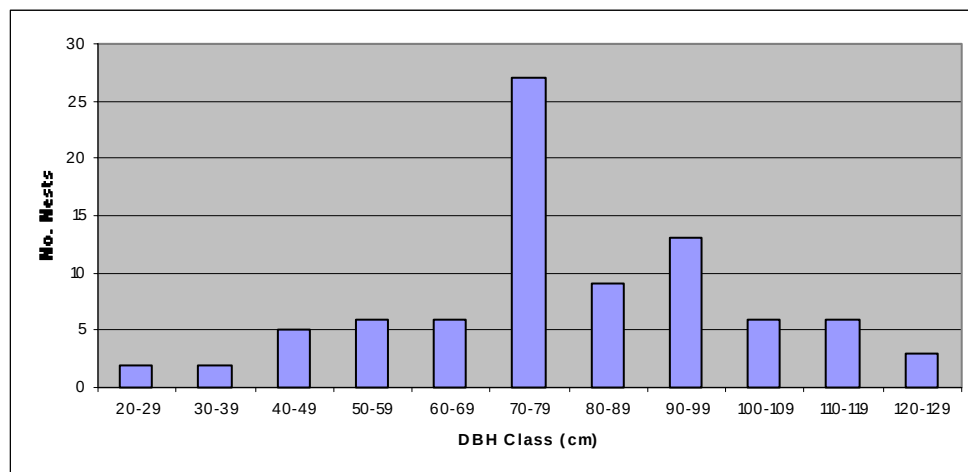


Figure 5. Diameters (dbh) of Live Western Larch trees used for nesting by Williamson's Sapsucker in the Okanagan-Boundary population 1995-2005.

In the Okanagan-Boundary population, nests in Old-growth (>170 years) stands containing Western Larch accounted for 44% of the 124 nests. However, the forest cover mapping was not very good at mapping scarce veteran Western Larch trees so that another 30% were found in polygons that contained veteran larch but where it had not been mapped. 11% of nests were in open seedtree cuts or burns adjacent to old-growth larch stands. 14% of nests were in riparian stands or aspen stands and one was in an old-growth Ponderosa Pine/Douglas-fir stand. Overall 95 of 124 nests were found in, or within 200-m of, stands containing old-growth Western Larch.

In the Princeton-Merritt-Kamloops-Hat Creek area, 81% of the 27 nests were in the IDFxh with the remainder in the IDFdk. 78% were between 800 and 1000 m with the remainder between 1000 and 1200 m. Aspen accounted for 44% of the 18 known nest trees, Ponderosa Pine for 39% and Douglas-fir the remainder.

DISCUSSION and RECOMMENDATIONS

Wildlife Habitat Area Step 1 forms were completed and have been submitted separately for older nest sites in 2002, 2003 and 2004. 19 additional WHA Step 1 forms were completed in 2005 based on newly discovered nests, and newly discovered territories. Where pairs were found which were almost certainly nesting, but for which no nest could be found because the site was likely visited too early in the nesting cycle, WHAs have been proposed. I would propose changing the criteria for WHA proposals to include activity areas and likely nesting trees of pairs that are obviously mated (i.e. responding to each others calls, seen on the same tree) in the nesting period (late May to late June). Otherwise the window of opportunity to efficiently find nests is very short (1-2 weeks) and many sites that should be WHA candidates may get passed over. In total there are now 67 WHA candidate areas for Williamson's Sapsuckers, all but one of which are in MOE Region 8: Boundary TSA-11; TFL 8-15; Merritt TSA-6 (1 of which is in MOE Region 3); Penticton TSA-7; and TFL 15-28. Average size of the WHAs proposed is 36.2 ha.

Williamson's Sapsucker should soon have a Recovery Team established to oversee its management as it has now been listed by COSEWIC as Endangered, and will soon be scheduled as a Species-at-Risk and subject to the Species at Risk Act. Priority should be given to the following items, either as part of the Recovery Plan, or in advance and anticipation of the recovery planning process:

1. Publication of existing data in a refereed journal so it enters the mainstream of scientific knowledge,
2. Inventory in the East Kootenays and outlier populations at Princeton, Merritt, Kamloops and Hat Creek to confirm their status and size,
3. Habitat measurements at or near known nest sites to better quantify habitat needs (e.g. density of potential nest trees, anting trees and sap trees) to develop effective forestry Best Management Practices that may not require set-aside forests in WHAs for conservation and management,
4. Refinement of current population and habitat estimates by completing existing habitat model and applying it to up-to-date VRI including additional interpretation of scarce veteran larch components from existing stereo colour aerial photography sets.

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